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Title:

Thermal & Stress Test Vehicle for Integrated Circuit Packaging

Abstract:

In recent years, with Moore's law gradually coming to an end, the development of integrated circuit chips began to show two trends: heterogeneous integration and monolithic system on a chip. These trends raise new challenges to the packaging technology of integrated circuits. In order to meet the detection requirements of temperature and stress distribution caused by chip self-heating, a special sensor has emerged. This report briefly describes the development history of such sensors and introduces the progress of our group in this field. The developed test chip has the characteristics of high-resolution, high-power density, wide temperature measurement range and high stress sensitivity. The multichannel drive system and multichannel readout system matched with the chip are developed. Finally, several application examples of the test vehicle in chip packaging and chip cooling are introduced.

Biography:

Prof. Binbin Jiao, Head of Research Group, Institute of Microelectronics of The Chinese Academy of Sciences. He received his B.S. in Electronic Science and Technology from the Xi'an Jiaotong University in 2003, and his Ph.D. from Institute of Microelectronics of The Chinese Academy of Sciences in 2008. His group's expertise covers MEMS devices, Microsystems, CMOS-MEMS process development, and Microchannel cooling for chips. He has participated in a number of National projects as National High Technology research and Development Program of China,

Chinese Equipment Pre-Research Field Foundation Key Project, and obtained a number of financial supports including Hislison, Miramems and Dali Technology.